Presented by:

George Klaetsch

Contract Counsel for WPCA, WOWRA, and WLWCA

WPCA
WISCONSIN PRECAST CONCRETE ASSOCIATION

WOWRA
Wisconsin Onsite Water Recycling Association

RESPONSIBLE RECYCLING BY RESPONSIBLE CARRIERS
Wisconsin Liquid Waste Carriers Association

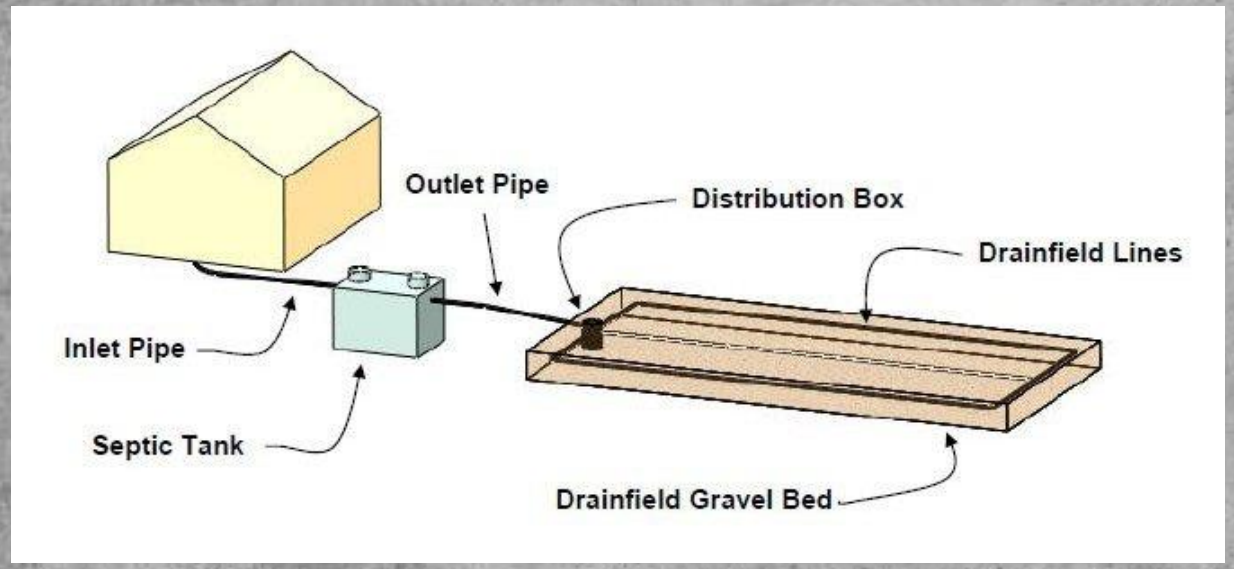
What Exactly is a POWTS?

- P - Private
- O - Onsite
- W - Wastewater
- T - Treatment
- S - System

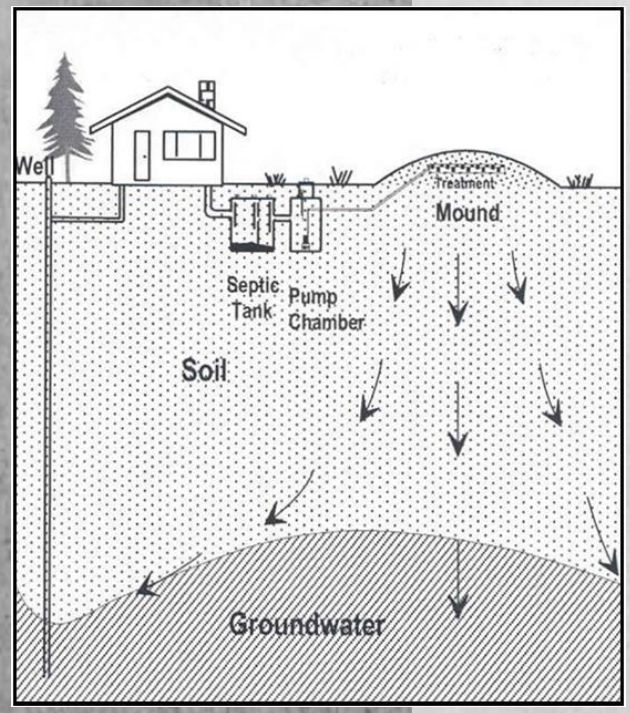
What Exactly is a POWTS?

- Traditionally two types of POWTS to treat and dispose of septage

At-Grade System

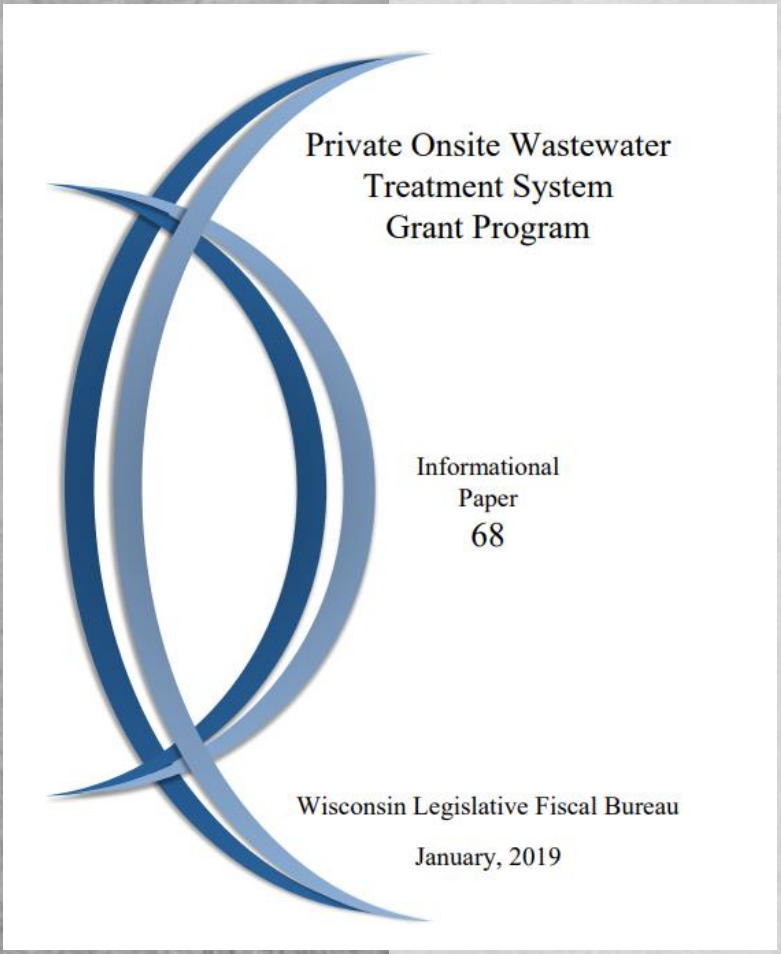


Mound System



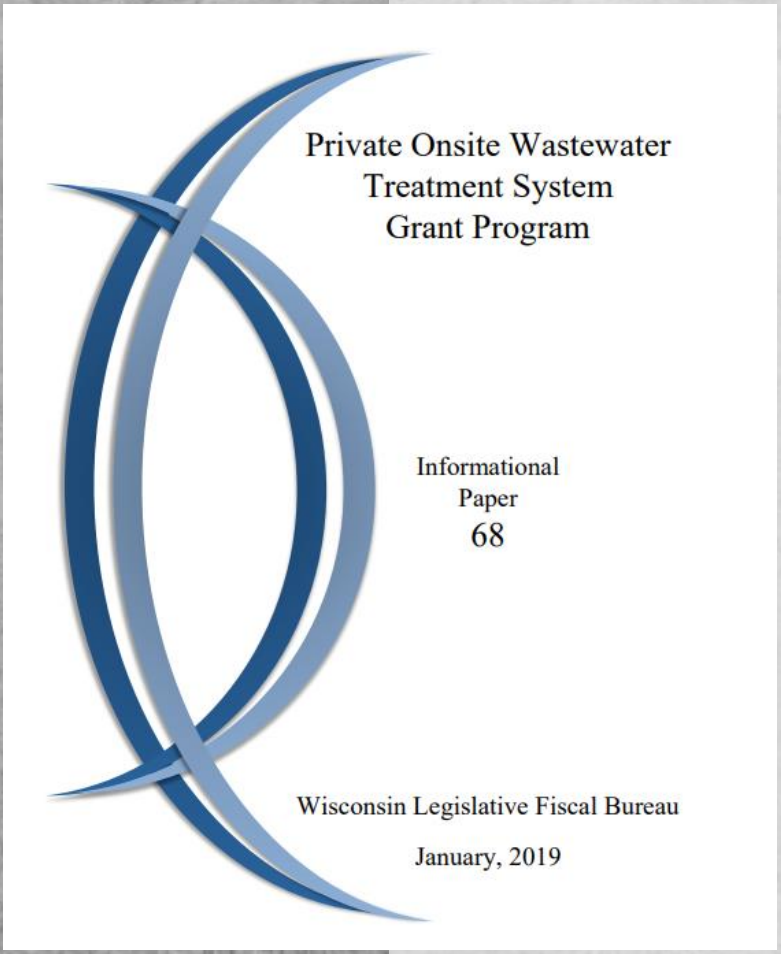
Current POWTS Demographics in WI

- 2015 – 738,000
- 2017 – 752,000
- 2019 – 761,100



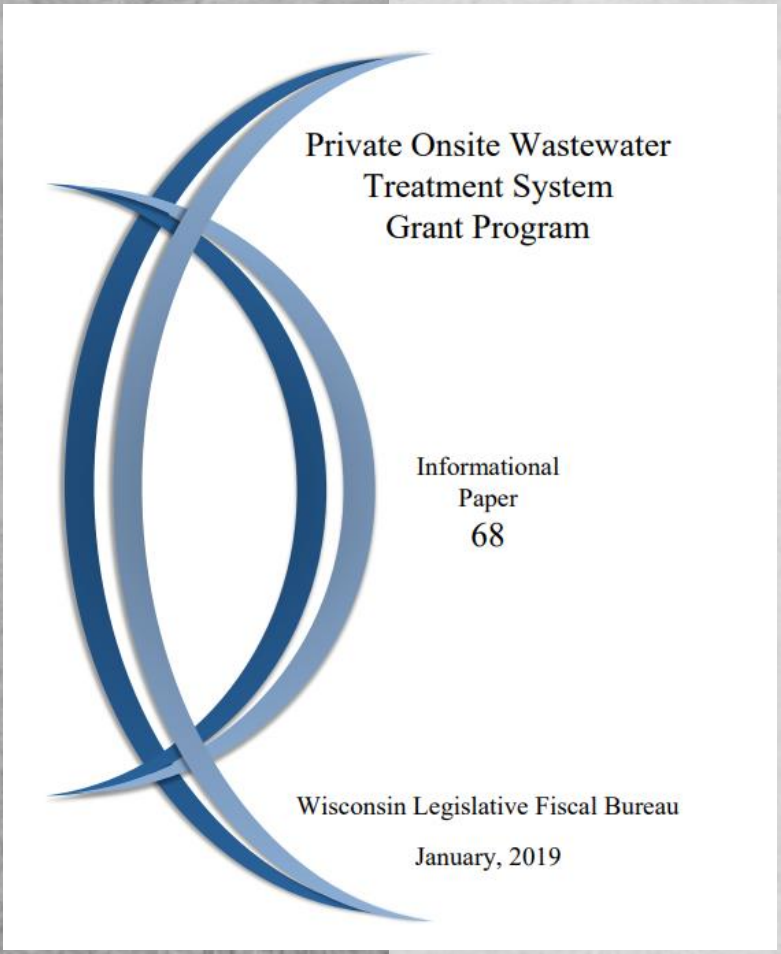
Current POWTS Demographics in WI

- 12,000 POWTS installed in 2016
- 12,500 POWTS installed in 2017
- 45% = new construction
- 55% = replacement systems



Septic Trades Proactive History

- Septic trades proactive in solution-based approaches/techniques for over 40 years
- Example 1 – POWTS Grant Program
  - Since 1978, POWTS Grant Program assisted 43,200 residences and businesses to replace and rehab failing systems



Proactive Industry

- Example 2

Mound system

From Wikipedia, the free encyclopedia

A **mound system** is an engineered drain field for treating wastewater in places with limited access to multi-stage wastewater treatment systems. Mound systems are an alternative to the traditional rural septic system drain field. They are used in areas where septic systems are prone to failure from extremely permeable or impermeable soils, soil with the shallow cover over porous bedrock, and terrain that features a high water table.[1]

History [edit]

The mound system was designed in the 1930s by the North Dakota College of Agriculture.[2] and was known as the Nodak Disposal System. In 1976, the University of Wisconsin studied the design of mound systems as part of the university's Waste Management Project. This project published the first ever design manual for identifying the appropriate site conditions and design criteria for mounds. In 2000, a new manual was released.[2]

Suitability [edit]

Mound systems are used to help purify and transport water efficiently.[1].

Some soils are too high in permeability, allowing water to quickly pass through it, hindering purification effectiveness and allowing contamination to spread to nearby water sources or ecosystems. .

Areas of low soil permeability, such as areas with high water tables and limited soil cover over porous bedrock, can result in contaminated surface pooling.[1]

How Much Septage Are We Talking About?

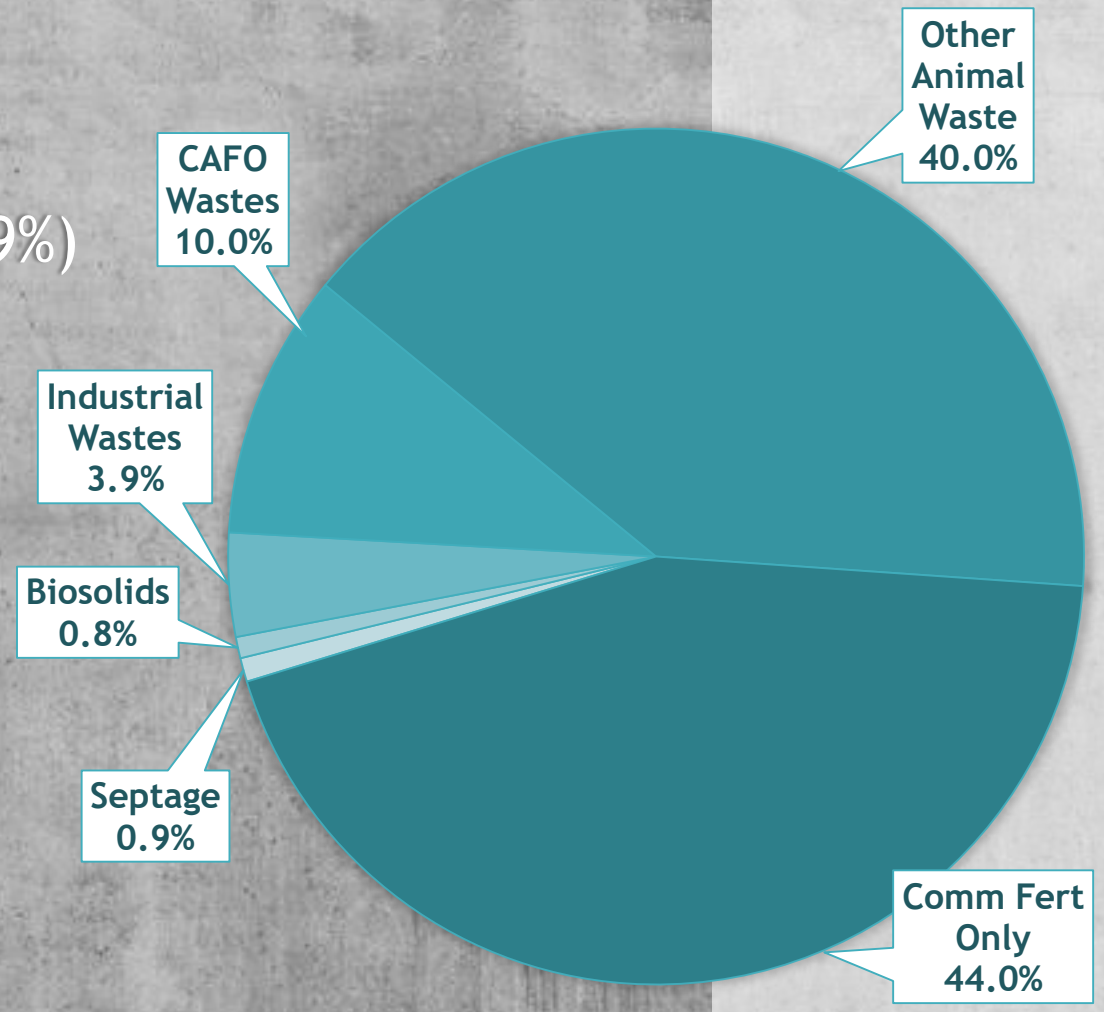
- 2016 Total WI septage generated
  - 227 million gallons
- Where did it go?
  - 126 million gallons (56%)
    - Municipal treatment facility
    - Hauled out of state
    - Temporary storage
  - 101 million gallons (44%)
    - Land application/injection

How Much Septage Are We Talking About?

- 2017 Total WI septage generated
  - 225 million gallons
- Where did it go?
  - 131 million gallons (58%)
    - Municipal treatment facility
    - Hauled out of state
    - Temporary storage
  - 94 million gallons (42%)
    - Land application/injection

How Much Septage Are We Talking About?

- WI Land Application Statistics
  - 9 million harvested acres
  - Septage = 90,000 acres/year* (0.9%)



*spread or injected on DNR approved fields

Based on 2009 DNR data

WATER QUALITY TASK FORCE

Wisconsin State Legislature / Our Mission

Speaker Robin Vos outlined five specific areas to examine:

1. Identifying best practices for testing and data collection, measuring water quality in different parts of the state, and types of soil

2. Determining the sources and causes of contaminants impacting water quality

3. Consulting with stakeholders to assess current practices to manage runoff as well as suggestions to improve these efforts

4. Investigating remedies that will protect a healthy and stable supply of water for residents and industry

5. Studying best practices for designing and constructing wells and septic systems to safeguard a healthy water supply

Presented by:

Mark Wieser, PE

Vice President of Wieser Concrete Products, Inc.
Executive Committee of the National Precast Concrete Association (NPCA)
MIC Task Force
Grease Interceptor Task Force
President of WOWRA

WPCA
WISCONSIN PRECAST CONCRETE ASSOCIATION

QUALITY PRECAST CONCRETE

WPCA
WISCONSIN PRECAST CONCRETE ASSOCIATION

SPS 384.25 POWTS holding components or treatment components

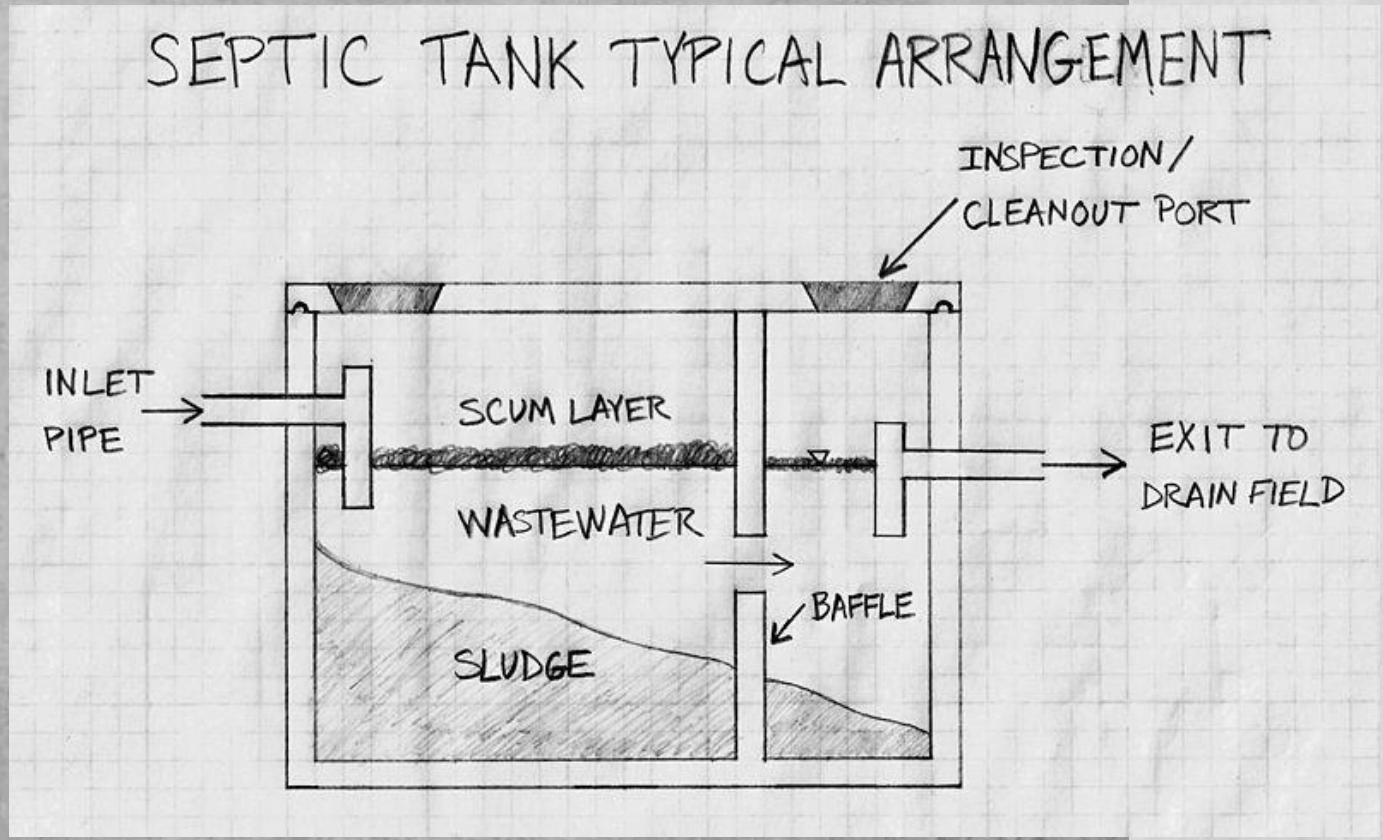
Current state code requires that any tank installed must be an approved product.

Current state code specifies a water tight and durable tank

No changes needed to current code.

WHAT HAPPENS IN A SEPTIC TANK

- SEPARATION
- FLOTATION
- SETTLING
- DIGESTION
- LOWERING OF:
  - BOD
  - TSS
  - N and P



IMPORTANCE OF SEPTIC TANK

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The performance and success of a properly sized tank relies on its structurally adequate and watertight design and durable construction.

HOW DO WE ENSURE QUALITY

WPCA
WISCONSIN PRECAST CONCRETE ASSOCIATION

EDUCATION

NATIONAL PRECAST CONCRETE ASSOCIATION

RESEARCH

EDUCATION

WPCA
WISCONSIN PRECAST CONCRETE ASSOCIATION

BI-ANNUAL MEETINGS WITH EDUCATION SESSIONS

EDUCATION

WPCA
WISCONSIN PRECAST CONCRETE ASSOCIATION

Annual POWTS Training Seminars to educate installers, specifiers and regulators.

Over 1,000 annual attendees.

NATIONAL PRECAST CONCRETE ASSOCIATION (NPCA)

WPCA
WISCONSIN PRECAST CONCRETE ASSOCIATION

- WPCA is an affiliate member.
- WPCA member is on the Board of Directors and several members are on committees.

RESEARCH

NPCA has undergone several research projects on septic tank design and performance, spearheaded by WPCA members.

- University of Maine Septic Tank Study
- Purdue University MIC Research
- UWSP MIC Field Study (currently in process)

BOTTOM LINE

WPCA members design, produce and install quality precast concrete tanks to ensure the waters of Wisconsin stay clean.

Presented by:

Kevin Stange

WOWRA Board Member
Code Administrator for Sheboygan County
Chairman of the WCCA POWTS Committee
Professional Consultant for UW - Stevens Point

WOWRA
Wisconsin Onsite Water Recycling Association

PRIVATELY OWNED WASTWATER TREATMENT SYSTEM
POWTS
SOIL TESTING
DESIGN
INSTALLATION

WOWRA
Wisconsin Onsite Water Recycling Association

- Most of us have no idea as to what is involved in installing a septic system.
- Septic systems are designed to treat the waste generated from a dwelling with the use of a septic tank which starts the treatment process and soil to trap and remove virus's.
- Based upon the revised plumbing code in 2000, homeowners have many options when is comes to the type, location and design of a septic system.

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The Wisconsin Mound

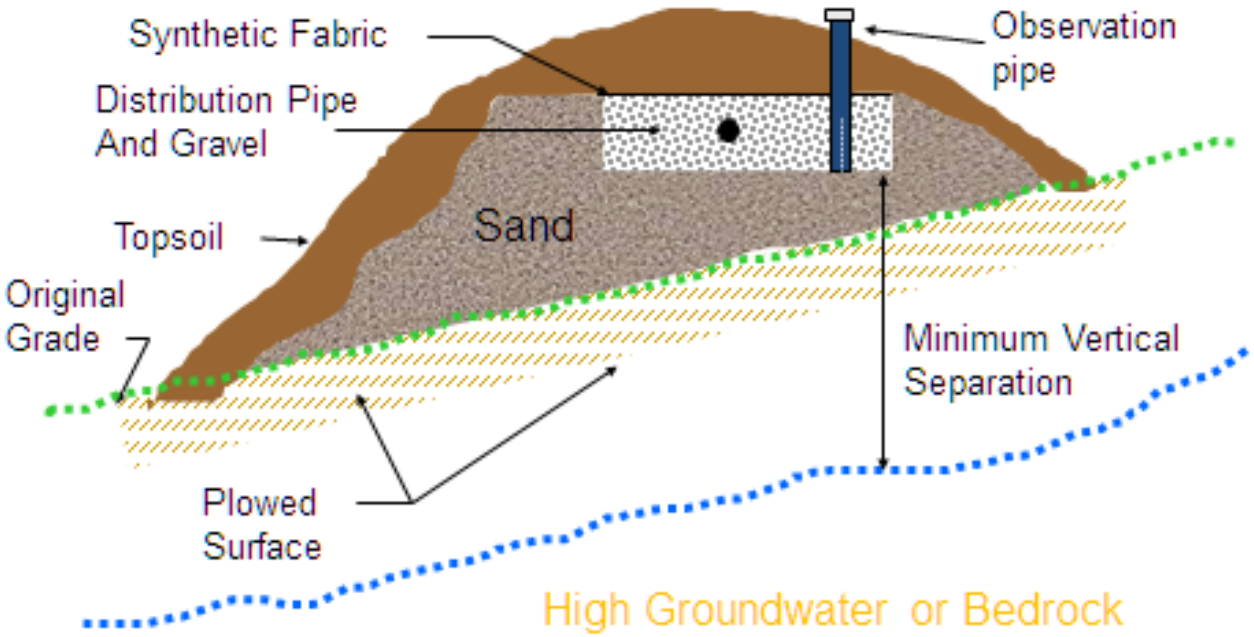
WOWRA
Wisconsin Onsite Water Recycling Association

- What is the Wisconsin mound system?
- Jim Converse and Jerry Tyler started the development of the Mound system in the late 70's to overcome slowly permeable soils, seasonal saturation and ground water as an alternative to a holding tank for property owners.
- Sheboygan County was instrumental in providing testing sites and data regarding the performance of the early experimental mounds and at grade systems.
- Jim Converse and Jerry Tyler determined early on that pressurization of the effluent to provide equal distribution throughout the mound was the impetus regarding the performance of the mounds on slowly permeable soils.

The Wisconsin Mound

WOWRA
Wisconsin Onsite Water Recycling Association

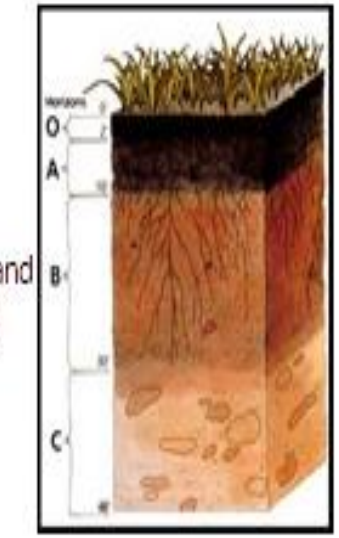
Mound System



Bacteria and Other Microbes –

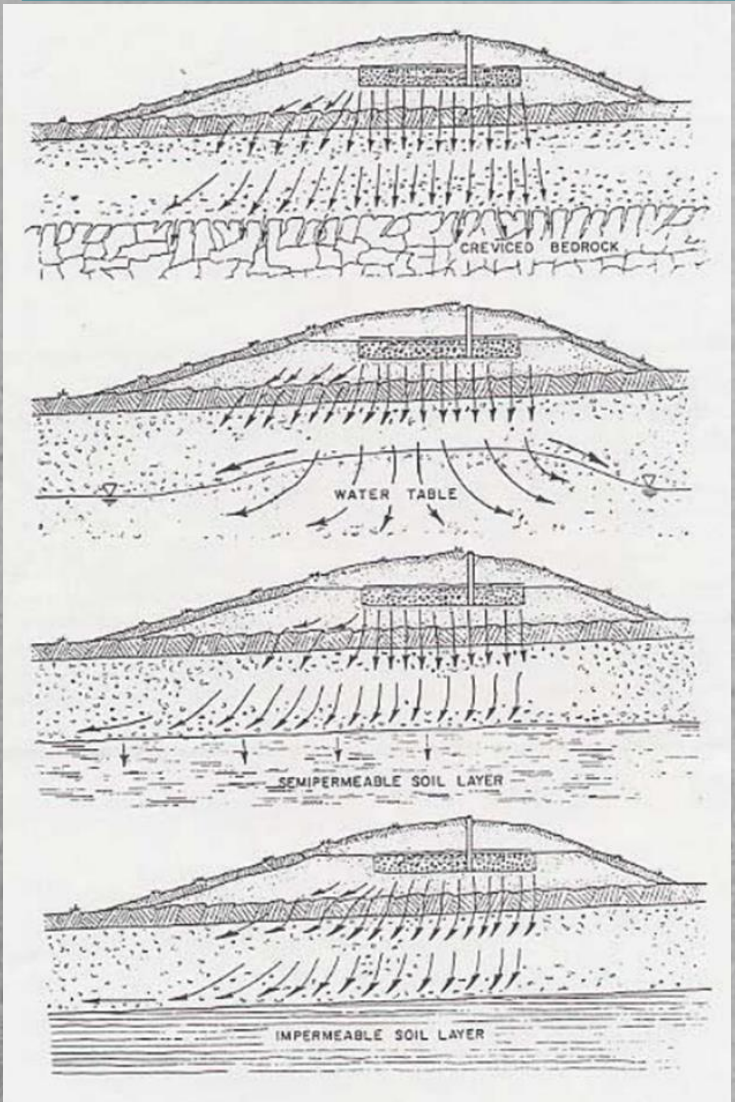
the real work horses of the terrestrial ecosystem

Billions
7-5 Million
1 -2 Million
400 – 500 Thousand
10,000 Thousand
One Thousand
Hundreds



The Wisconsin Mound Treats Waste

WOWRA
Wisconsin Onsite Water Recycling Association



Mounds can be placed over creviced bedrock

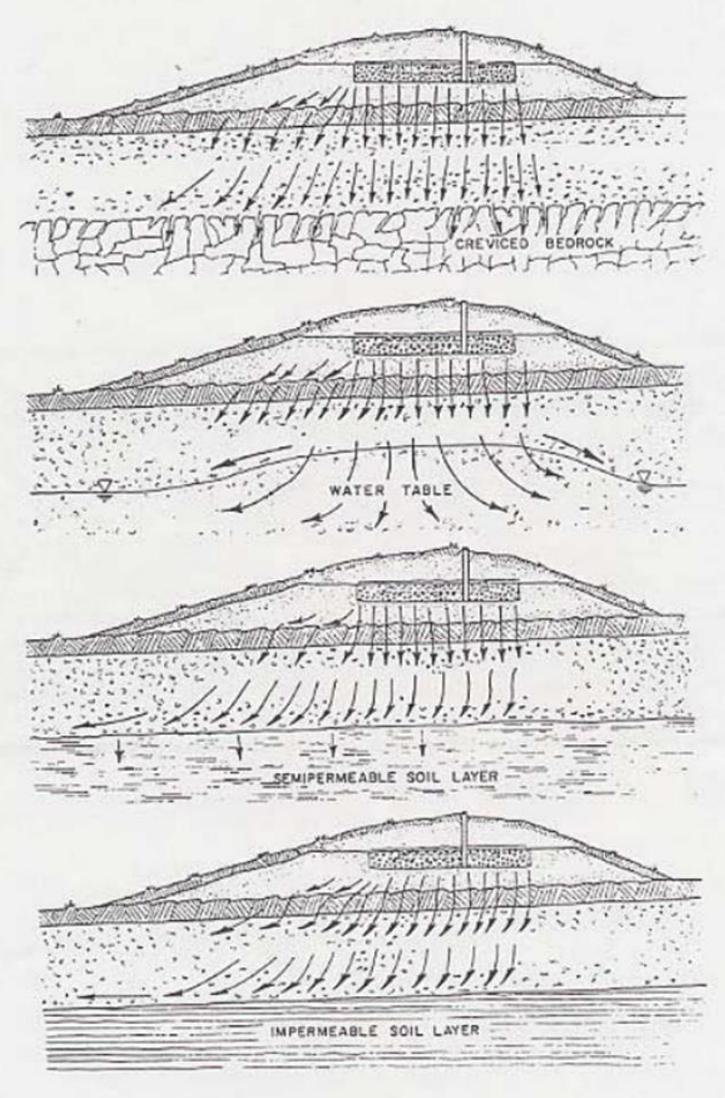
Mounds can be placed over seasonal saturation

Mounds can be placed over semi permeable soil

Mounds can be placed over impermeable soil layers

The Wisconsin Mound Treats Waste

WOWRA
Wisconsin Onsite Water Recycling Association



The Wisconsin Mound Treats Waste

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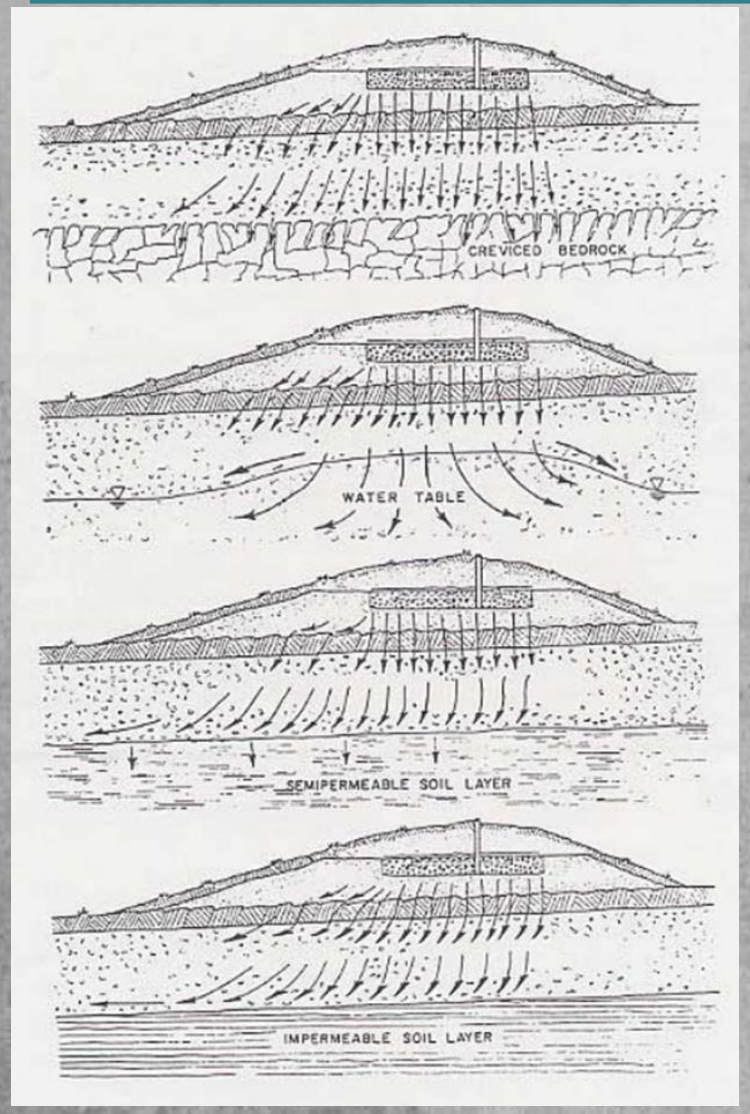
Wisconsin Onsite Water Recycling Association



The Wisconsin Mound Treats Waste

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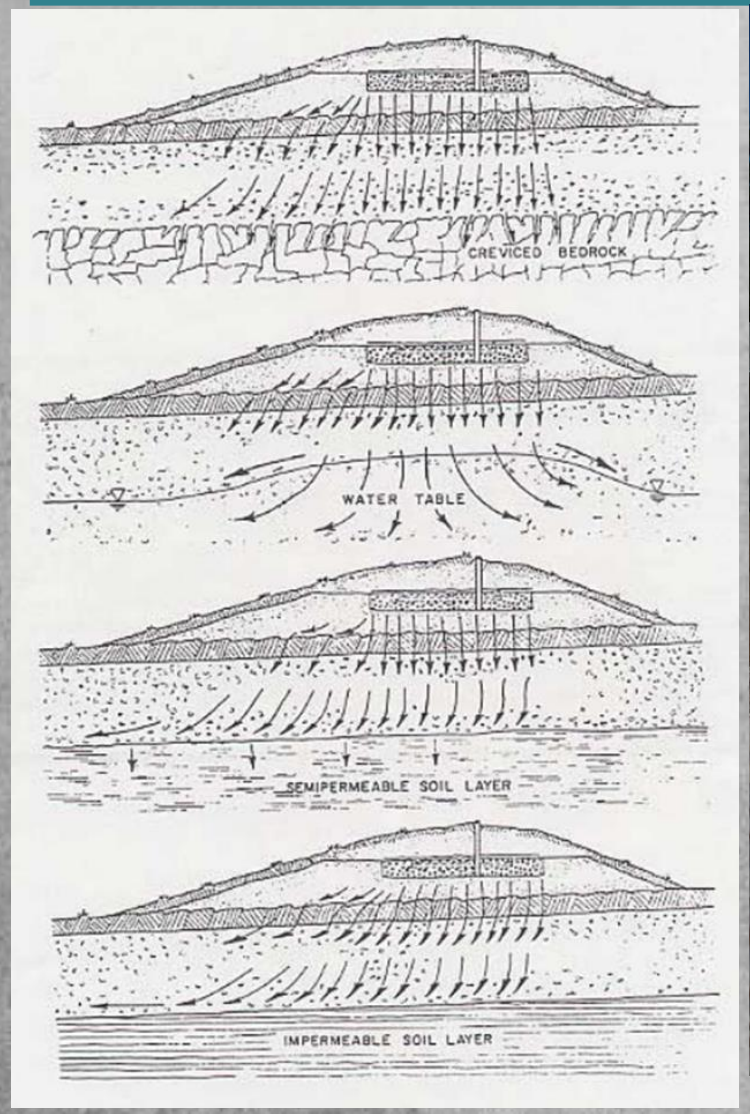
Wisconsin Onsite Water Recycling Association



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Wisconsin Onsite Water Recycling Association

NEW PRODUCTS COMING ONLINE
Lack of Continued Product Testing

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Wisconsin Onsite Water Recycling Association

- In the past two years DSPS product approval has approved new gravity mound septic components along with downsizing credits solely based on NSF testing protocols.
- In a 2018 letter to the DSPS, Jim Converse outlined the significance of pressure distribution for above ground type systems and warned of performance issues with gravity distribution
- Concerns have been raised by WOWRA , WCCA and the TAC regarding the lack of oversight and data associated with the new products and has repeatedly asked for SPS Chapter 383.70 to allow for the testing of new products.
- WCCA would recommend a portion of the $100.00 ground water fee from each Sanitary Permit issued by County Departments be used for Performance Monitoring.

3yr. Maintenance of Septic System

WOWRA
Wisconsin Onsite Water Recycling Association

- Sheboygan County implemented the 3-year maintenance program in 2005. It has been an invaluable tool to identify septic system failures.
  - Has found old septic systems discharging to waterways, ground surface and road ditches.
    - Those failures have been corrected
  - Has identified water infiltration into septic tanks which has an adverse affect on the filter bed and leads to prematurely failed systems.
  - Resulting in replacement or rehabilitation of systems
- However, the inventory of septic systems revealed three thousand systems in the County; which the county is determining future actions to conform systems to current code.

Clarification of 2015 Act 55

WOWRA
Wisconsin Onsite Water Recycling Association

- Act 55 which became effective July 14, 2015 created s.706.22 of the Statutes tiled “Prohibition on imposing time-of-sale, purchase, or occupancy requirements.”
- The result of this bill removed a valuable tool for County’s protecting water quality and public health.
- We would ask for an exemption to the current law to allow Counties to require an evaluation of the soils prior to the sale of homes with inadequate soil information on file regarding the current septic system.

Necessary Tools For Clean Water

WOWRA
Wisconsin Onsite Water Recycling Association

- **PERFORMANCE TESTING** OF NEW COMPONENTS WHICH MAY FALL SHORT OF THE TESTING PROTOCOLS ESTABLISHED BY CONVERSE AND TYLER

- **SALE OF PROPERTY VERIFICATION** TO ENSURE THE CONTINUATION OF A SEPTIC SYSTEM DOES NOT CONTINUE TO CONTAMINATE GROUND WATER

Presented by:

Lance Petrasek

Septage Service Operator 81255
Septage Business Operator in Charge 8424
Certified Soil Tester 224315
Certified POWTS Inspector 224315
Certified POWTS Maintainer 224315
Designer of Engineering systems -POWTS DES1577-07
Vice President Wisconsin Liquid Waste Carriers Association

Wisconsin Liquid Waste
Carriers Association

History

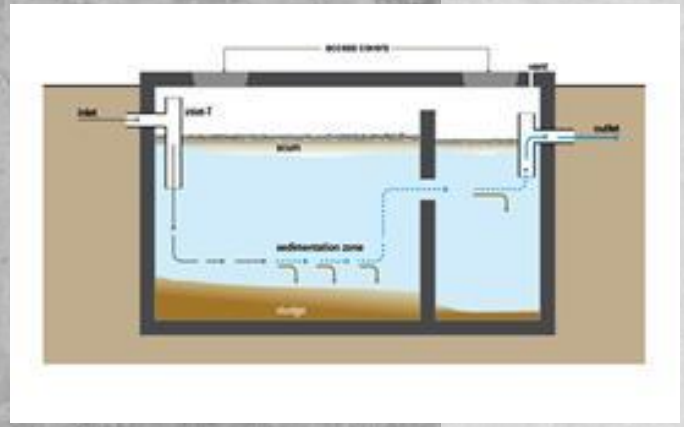
- Overview/ History of NR 113
  - Clean water Act 1972
  - Clean Water Act amendment 1987
  - 503 Code of Federal Regulations (CFR) 1993
- History of WLWCA
  - Founded 1972

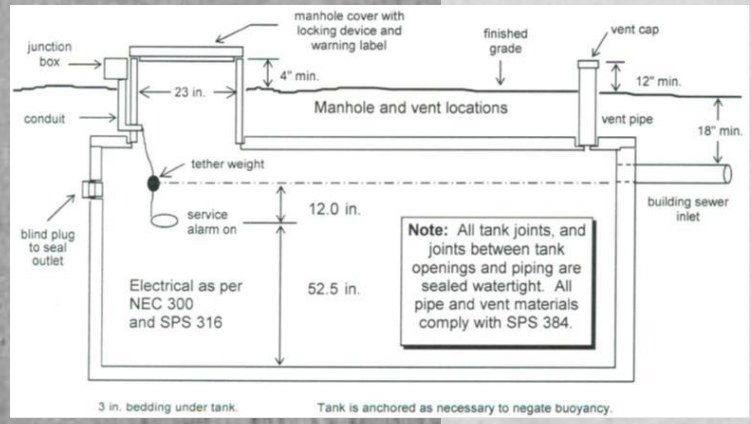
Wisconsin Liquid Waste Carriers Association

Septic system Overview

Wisconsin Liquid Waste Carriers Association

- Septic System
  - Has a Septic tank and some sort of Drain field
    - In-ground
    - Above Ground
- Septic Tank
  - Sewage is partially treated through a process of sedimentation, oxidation, flotation and bacterial action so as to clarify liquid prior to entering drain field.
  - Tanks Pumped/ inspected every 3 yrs.
    - Remove sludge/ scum/ evaluate tank/ system
  - Counties track 3 year Maintenance
- Holding Tank
  - No drain field allowed
  - Tank only
  - All waste disposed off site
  - Tank pumped whenever it gets full
  - Counties Track HT pumping





Disposal After Pumping

Wisconsin Liquid Waste Carriers Association

- Treatment Plant

- Land application
  - Surface
  - Injection

- Storage

Treatment Plant

Wisconsin Liquid Waste Carriers Association

- Log all waste
  - Type
  - Source

S.O.P.

Unloading Truck at Treatment Plant

1. Enter treatment plant and follow designated route to disposal area. Weigh truck if needed.
2. Park truck in position to discharge/ and or hook up to discharge hose. Move truck as needed. Lower suspension when possible.
3. Once in correct spot and all applicable connections made, open valve to begin discharge.
4. Grab sample as needed, and fill out paperwork for plant.
5. Let truck completely empty, verify discharge hose is empty. Close discharge valve on truck.
6. Un hook discharge hose and put cap on discharge line.
7. Spray down area if hose available and as needed.
8. Check to be sure all tools and hoses secured. Pull away.

LANCE PETRASEK OIC 2484

TREATMENT PLANT

Wisconsin Liquid Waste Carriers Association

- Annual Logs of all gallons pumped/discharged
  - Every gallon accounted for

METHODS of DISPOSAL OR DISTRIBUTION REPORT
Section 283.55(1) or 281.48(3)(b), Wis. Stats.
Form 3400-52 Rev. 11-97

Form requires electronic submittal by January 31
Please keep a completed version of the form for your records.
Year Submitted for : **2018**
☒ Performed other methods of disposal

WPDES Permit No: **2484**
Permittee/Licensee Name: **ASSOCIATES SOIL TESTING OF WISCONSIN, IN**
FID Number:
County: **Walworth**

End Use *	DNR Permit/License # of Receiving Entity	Name of Treatment or Receiving Entity	Outfall No. **	Total Amount Treated, Disposed or Distributed	Units
A	002-0001	City of Whitewater wastewater treatment plant	990	428,100	Gallons
A	002-0001	City of Whitewater wastewater treatment plant	995	970,050	Gallons
A	002-0001	City of Whitewater wastewater treatment plant	997	11,065	Gallons
A	002-9971	Waukesha Wastewater Treatment Plant	990	10,500	Gallons
A	002-8754	Western Racine Sewage District	990	58,100	Gallons
A	002-8754	Western Racine Sewage District	995	8,800	Gallons
A	002-0265	Village of Mukwonago Waste water treatment plant	990	391,750	Gallons
A	002-0265	Village of Mukwonago Waste water treatment plant	995	570,150	Gallons
A	002-1130	Lake Geneva Waste water treatment plant	995	1,738,860	Gallons

Comments:

* L = Landfill, I = Incinerate, E = Produce a exceptional quality product, M = Manure Pit, A = Another facility for further treatment and/or ultimate disposition, H = Hauled out-of-state for further treatment and/or ultimate disposition.

** If the waste applied is septage, indicate 990 if septic tank waste, 995 if holding tank waste, or 997 if more than 25% grease interceptor waste.

Completion and submission of this form is mandatory under section 283.55, Wis. Stats., and NR 204 or 214 Wis. Adm. Code, or 281.48(3)(b), Wis. Stats., and NR 113 Wis. Adm. Code. Failure to properly complete and submit this form is a violation of section 283.91 or 281.48, Wis. Stats., and may result in a monetary penalty and/or imprisonment. Personally identifiable information on this form is not intended to be used for any other purpose.

I hereby certify that to the best of my knowledge, the statements are tue and correct.

Signature of Principal Officer or Authorized Agent	Print or Type Name	Title	Date Signed

Land Application

Wisconsin Liquid Waste Carriers Association

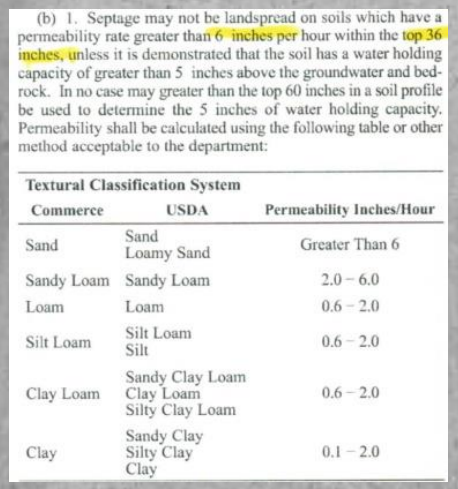
- Surface
  - Incorporation
    - Spread, then disked in within 6 hrs
  - Spreading
    - Lime Stabilized
- Injection

(a)

Application Requirements

Wisconsin Liquid Waste Carriers Association

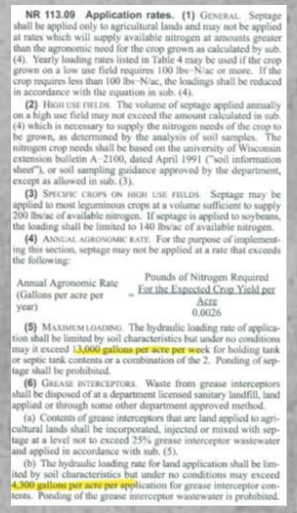
- Vertical Setbacks to groundwater
- Horizontal setbacks to water, other
- Soil Treatment capabilities
- Nutrient Requirements
  - Agronomic Needs - Nitrogen



(b) 1. Septage may not be landspread on soils which have a permeability rate greater than 6 inches per hour within the top 36 inches, unless it is demonstrated that the soil has a water holding capacity of greater than 5 inches above the groundwater and bedrock. In no case may greater than the top 60 inches in a soil profile be used to determine the 5 inches of water holding capacity. Permeability shall be calculated using the following table or other method acceptable to the department:

Textural Classification System

Commerce	USDA	Permeability Inches/Hour
Sand	Sand Loamy Sand	Greater Than 6
Sandy Loam	Sandy Loam	2.0 – 6.0
Loam	Loam	0.6 – 2.0
Silt Loam	Silt Loam Silt	0.6 – 2.0
Clay Loam	Sandy Clay Loam Clay Loam Silty Clay Loam	0.6 – 2.0
Clay	Sandy Clay Silty Clay Clay	0.1 – 2.0



NR 113.09 Application rates. (1) GENERAL. Septage shall be applied only to agricultural lands and may not be applied at rates which will supply available nitrogen at amounts greater than the agronomic need for the crop grown as calculated by sub. (4). Yearly loading rates listed in Table 4 may be used if the crop grown on a low use field requires 100 lbs–N/ac or more. If the crop requires less than 100 lbs–N/ac, the loadings shall be reduced in accordance with the equation in sub. (4).

(2) HIGH USE FIELDS. The volume of septage applied annually on a high use field may not exceed the amount calculated in sub. (4) which is necessary to supply the nitrogen needs of the crop to be grown, as determined by the analysis of soil samples. The nitrogen crop needs shall be based on the university of Wisconsin extension bulletin A–2100, dated April 1991 ("soil information sheet"), or soil sampling guidance approved by the department, except as allowed in sub. (3).

(3) SPECIFIC CROPS ON HIGH USE FIELDS. Septage may be applied to most leguminous crops at a volume sufficient to supply 200 lbs/ac of available nitrogen. If septage is applied to soybeans, the loading shall be limited to 140 lbs/ac of available nitrogen.

(4) ANNUAL AGRONOMIC RATE. For the purpose of implementing this section, septage may not be applied at a rate that exceeds the following:

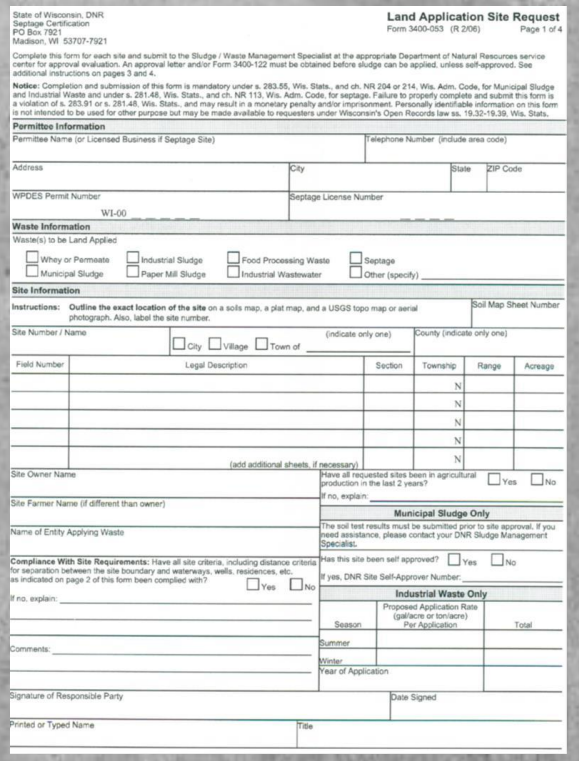
Annual Agronomic Rate (Gallons per acre per year)	Pounds of Nitrogen Required For the Expected Crop Yield per Acre
	0.0026

(5) MAXIMUM LOADING. The hydraulic loading rate of application shall be limited by soil characteristics but under no conditions may it exceed 13,000 gallons per acre per week for holding tank or septic tank contents or a combination of the 2. Ponding of septage shall be prohibited.

(6) GREASE INTERCEPTORS. Waste from grease interceptors shall be disposed of at a department licensed sanitary landfill, land applied or through some other department approved method.

(a) Contents of grease interceptors that are land applied to agricultural lands shall be incorporated, injected or mixed with septage at a level not to exceed 25% grease interceptor wastewater and applied in accordance with sub. (5).

(b) The hydraulic loading rate for land application shall be limited by soil characteristics but under no conditions may exceed 4,300 gallons per acre per application for grease interceptor contents. Ponding of the grease interceptor wastewater is prohibited.



State of Wisconsin, DNR
Septage Certification
PO Box 7921
Madison, WI 53707-7921

Land Application Site Request
Form 3400-053 (R 2/06) Page 1 of 4

Complete this form for each site and submit to the Sludge / Waste Management Specialist at the appropriate Department of Natural Resources service center for approval evaluation. An approval letter and/or Form 3400-122 must be obtained before sludge can be applied, unless self-approved. See additional instructions on pages 3 and 4.

Notice: Completion and submission of this form is mandatory under s. 283.55, Wis. Stats., and ch. NR 204 or 214, Wis. Adm. Code, for Municipal Sludge and Industrial Waste and under s. 281.48, Wis. Stats., and ch. NR 113, Wis. Adm. Code, for septage. Failure to properly complete and submit this form is a violation of s. 283.91 or s. 281.48, Wis. Stats., and may result in a monetary penalty and/or imprisonment. Personally identifiable information on this form is not intended to be used for other purpose but may be made available to requesters under Wisconsin's Open Records law ss. 19.32–19.39, Wis. Stats.

Permittee Information

Permittee Name (or Licensed Business if Septage Site) | Telephone Number (include area code)

Address | City | State | ZIP Code

WPDES Permit Number WI-00 | Septage License Number

Waste Information

Waste(s) to be Land Applied

☐ Whey or Permeate ☐ Industrial Sludge ☐ Food Processing Waste ☐ Septage
☐ Municipal Sludge ☐ Paper Mill Sludge ☐ Industrial Wastewater ☐ Other (specify)

Site Information

Instructions: **Outline the exact location of the site** on a soils map, a plat map, and a USGS topo map or aerial photograph. Also, label the site number.

Site Number / Name | Soil Map Sheet Number

☐ City ☐ Village ☐ Town of (indicate only one) | County (indicate only one)

Field Number	Legal Description	Section	Township	Range	Acreage
			N		
			N		
			N		
			N		
	(add additional sheets, if necessary)		N		

Site Owner Name | Have all requested sites been in agricultural production in the last 2 years? ☐ Yes ☐ No

If no, explain:

Site Farmer Name (if different than owner)

Name of Entity Applying Waste

Municipal Sludge Only

The soil test results must be submitted prior to site approval. If you need assistance, please contact your DNR Sludge Management Specialist.

Has this site been self approved? ☐ Yes ☐ No

If yes, DNR Site Self-Approver Number:

Compliance With Site Requirements: Have all site criteria, including distance criteria for separation between the site boundary and waterways, wells, residences, etc. as indicated on page 2 of this form been complied with? ☐ Yes ☐ No

If no, explain:

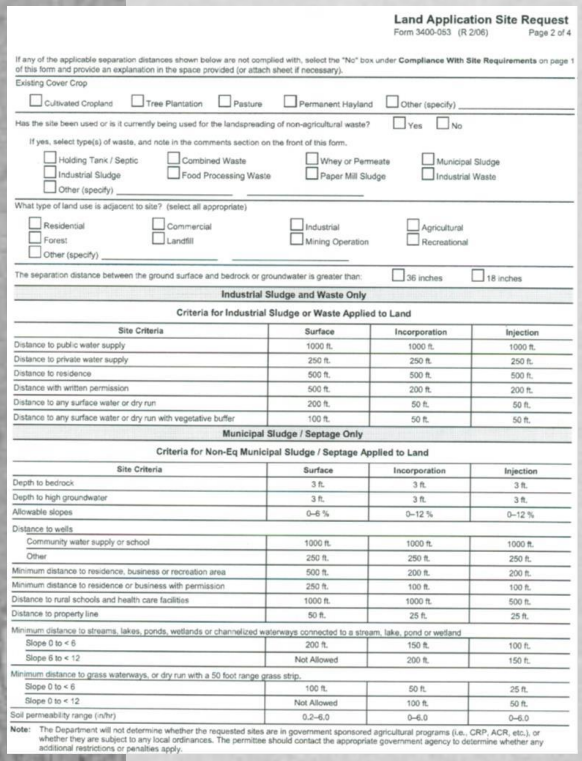
Industrial Waste Only

Season	Proposed Application Rate (gal/acre or ton/acre) Per Application	Total
Summer		
Winter		
Year of Application		

Comments:

Signature of Responsible Party | Date Signed

Printed or Typed Name | Title



Land Application Site Request
Form 3400-053 (R 2/06) Page 2 of 4

If any of the applicable separation distances shown below are not complied with, select the "No" box under **Compliance With Site Requirements** on page 1 of this form and provide an explanation in the space provided (or attach sheet if necessary).

Existing Cover Crop

☐ Cultivated Cropland ☐ Tree Plantation ☐ Pasture ☐ Permanent Hayland ☐ Other (specify)

Has the site been used or is it currently being used for the landspreading of non-agricultural waste? ☐ Yes ☐ No

If yes, select type(s) of waste, and note in the comments section on the front of this form.

☐ Holding Tank / Septic ☐ Combined Waste ☐ Whey or Permeate ☐ Municipal Sludge
☐ Industrial Sludge ☐ Food Processing Waste ☐ Paper Mill Sludge ☐ Industrial Waste
☐ Other (specify)

What type of land use is adjacent to site? (select all appropriate)

☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural
☐ Forest ☐ Landfill ☐ Mining Operation ☐ Recreational
☐ Other (specify)

The separation distance between the ground surface and bedrock or groundwater is greater than: ☐ 36 inches ☐ 18 inches

Industrial Sludge and Waste Only

Criteria for Industrial Sludge or Waste Applied to Land

Site Criteria	Surface	Incorporation	Injection
Distance to public water supply	1000 ft.	1000 ft.	1000 ft.
Distance to private water supply	250 ft.	250 ft.	250 ft.
Distance to residence	500 ft.	500 ft.	500 ft.
Distance with written permission	500 ft.	200 ft.	200 ft.
Distance to any surface water or dry run	200 ft.	50 ft.	50 ft.
Distance to any surface water or dry run with vegetative buffer	100 ft.	50 ft.	50 ft.

Municipal Sludge / Septage Only

Criteria for Non-Eq Municipal Sludge / Septage Applied to Land

Site Criteria	Surface	Incorporation	Injection
Depth to bedrock	3 ft.	3 ft.	3 ft.
Depth to high groundwater	3 ft.	3 ft.	3 ft.
Allowable slopes	0–6 %	0–12 %	0–12 %
Distance to wells			
Community water supply or school	1000 ft.	1000 ft.	1000 ft.
Other	250 ft.	250 ft.	250 ft.
Minimum distance to residence, business or recreation area	500 ft.	200 ft.	200 ft.
Minimum distance to residence or business with permission	250 ft.	100 ft.	100 ft.
Distance to rural schools and health care facilities	1000 ft.	1000 ft.	500 ft.
Distance to property line	50 ft.	25 ft.	25 ft.
Minimum distance to streams, lakes, ponds, wetlands or channelized waterways connected to a stream, lake, pond or wetland			
Slope 0 to < 6	200 ft.	150 ft.	100 ft.
Slope 6 to < 12	Not Allowed	200 ft.	150 ft.
Minimum distance to grass waterways, or dry run with a 50 foot range grass strip.			
Slope 0 to < 6	100 ft.	50 ft.	25 ft.
Slope 0 to < 12	Not Allowed	100 ft.	50 ft.
Soil permeability range (in/hr)	0.2–6.0	0–6.0	0–6.0

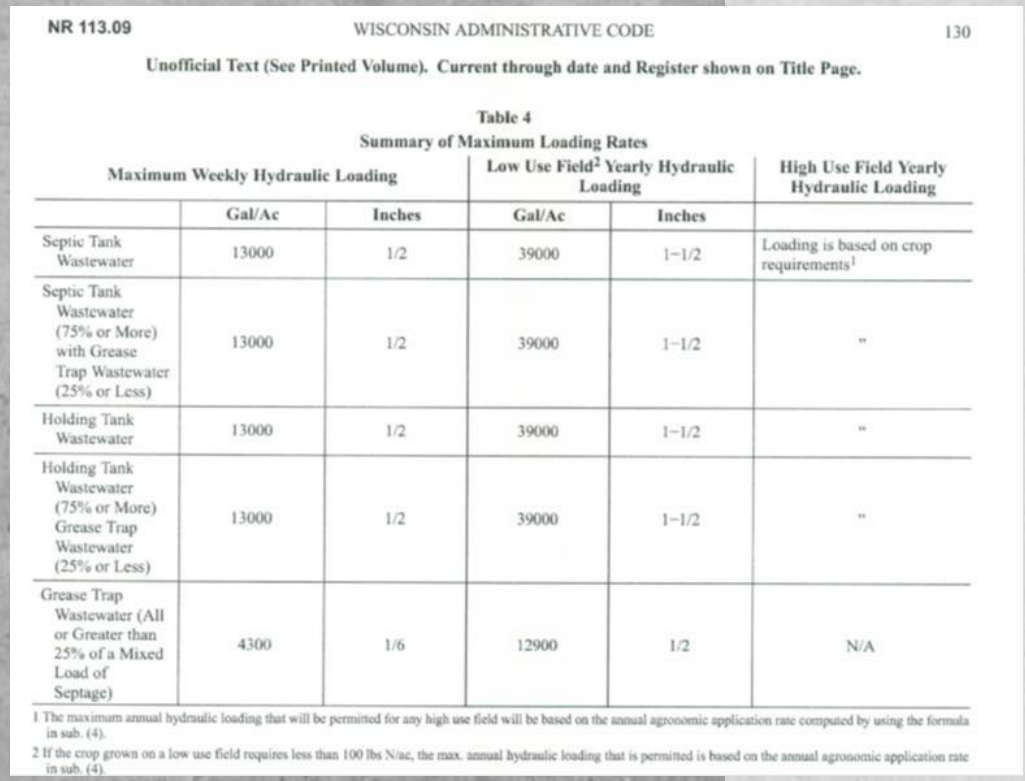
Note: The Department will not determine whether the requested sites are in government sponsored agricultural programs (i.e., CRP, ACR, etc.), or whether they are subject to any local ordinances. The permittee should contact the appropriate government agency to determine whether any additional restrictions or penalties apply.

Application Requirements

Wisconsin Liquid Waste Carriers Association

- Max. Application rates based on crop requiring ≥100#--N/ Acre (Typical)
- Use Formula below for crops requiring less

$$\text{Annual Agronomic Rate (Gallons per acre per year)} = \frac{\text{Pounds of Nitrogen Required For the Expected Crop Yield per Acre}}{0.0026}$$



NR 113.09 WISCONSIN ADMINISTRATIVE CODE 130

Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

Table 4
Summary of Maximum Loading Rates

	Maximum Weekly Hydraulic Loading		Low Use Field[2] Yearly Hydraulic Loading		High Use Field Yearly Hydraulic Loading
	Gal/Ac	Inches	Gal/Ac	Inches	
Septic Tank Wastewater	13000	1/2	39000	1-1/2	Loading is based on crop requirements[1]
Septic Tank Wastewater (75% or More) with Grease Trap Wastewater (25% or Less)	13000	1/2	39000	1-1/2	"
Holding Tank Wastewater	13000	1/2	39000	1-1/2	"
Holding Tank Wastewater (75% or More) Grease Trap Wastewater (25% or Less)	13000	1/2	39000	1-1/2	"
Grease Trap Wastewater (All or Greater than 25% of a Mixed Load of Septage)	4300	1/6	12900	1/2	N/A

1 The maximum annual hydraulic loading that will be permitted for any high use field will be based on the annual agronomic application rate computed by using the formula in sub. (4).

2 If the crop grown on a low use field requires less than 100 lbs N/ac, the max. annual hydraulic loading that is permitted is based on the annual agronomic application rate in sub. (4).

Land application Procedures & Requirements

Wisconsin Liquid Waste Carriers Association

Associates Soil Testing of Wisconsin, Inc.

2019 Service Log Vector Attraction Reduction Statement

"I certify, under penalty of law, that the information that will be used to determine compliance with the pathogen requirements [NR 113.07 (3) (d) 1. a. and/or NR 113.07(3)(d)1.b.] and the vector attraction reduction requirement in [NR 113.07(3)(e)1., NR 113.07 (3) (e) 2.. and/or NR113.07(3)(e)3.] has been prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification."

Signature

Date Range (D/M/Y to D/M/Y)

- Vector Attraction/ Pathogen reduction statement
- Standard Operating Procedures based NR 113 NR 114

LAND APPLICATION PATHOGEN AND VECTOR ATTRACTION PROCEDURE

1. Lime will be purchased by the pallet.
2. when conditions are right for surface application, 50 # bags will be loaded onto truck.
3. During or after septic tank is being pumped out, lime will be added to the septage at approximately 50# per 1500 gallon.
4. After the last load, and prior to embarking for land application site, the PH shall be tested using PH strips 11.0-13.0
5. If the PH is above 12, note the time and transport can begin, if Ph is lower, then more lime is needed to bring Ph above 12. Once ph is above 12, note the time and transport can begin.
6. When arriving at application site check time to be sure 30 minutes has elapsed since last ph reading above 12 was taken. If it has been 30 minutes or more, you may take another sample. If it has been less than 30 minutes, wait until 30 minutes has passed, and take sample.
7. If sample has ph of 12 or more you may apply septage. If Ph is below 12 you shall add more lime and follow steps 5-7 again. Important, Ph must remain above 12 for 30 or more minutes.
8. Cones/Flags will designate area previously applied and thus the next area to receive waste.
9. Put splash plate/ Debris collector on outlet, start PTO, put truck in gear, begin moving forward, and then release air actuated valve to allow waste to be evenly spread. Drive at a steady pace, until tank is empty.
    - If debris filter fills up. Close valve, stop PTO, and clean filter off into a bucket. Resume process.
10. Drive back adjacent to application zone to see if any non biodegradable debris was discharged. If so pick it up.
11. Put splash plate away and cap back on.
12. record information in log book

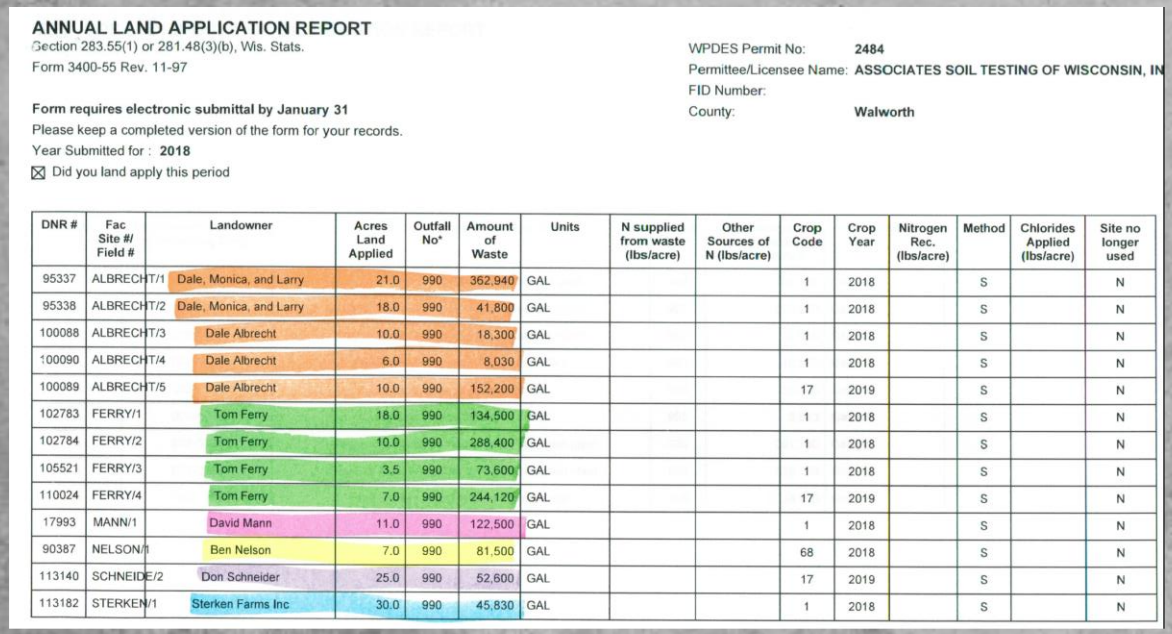
LANCE PETRASEK OIC 2484

Land Application Log Book Requirements

Wisconsin Liquid Waste Carriers Association

- Daily Log Book
- Annual Logs

  Every gallon accounted for



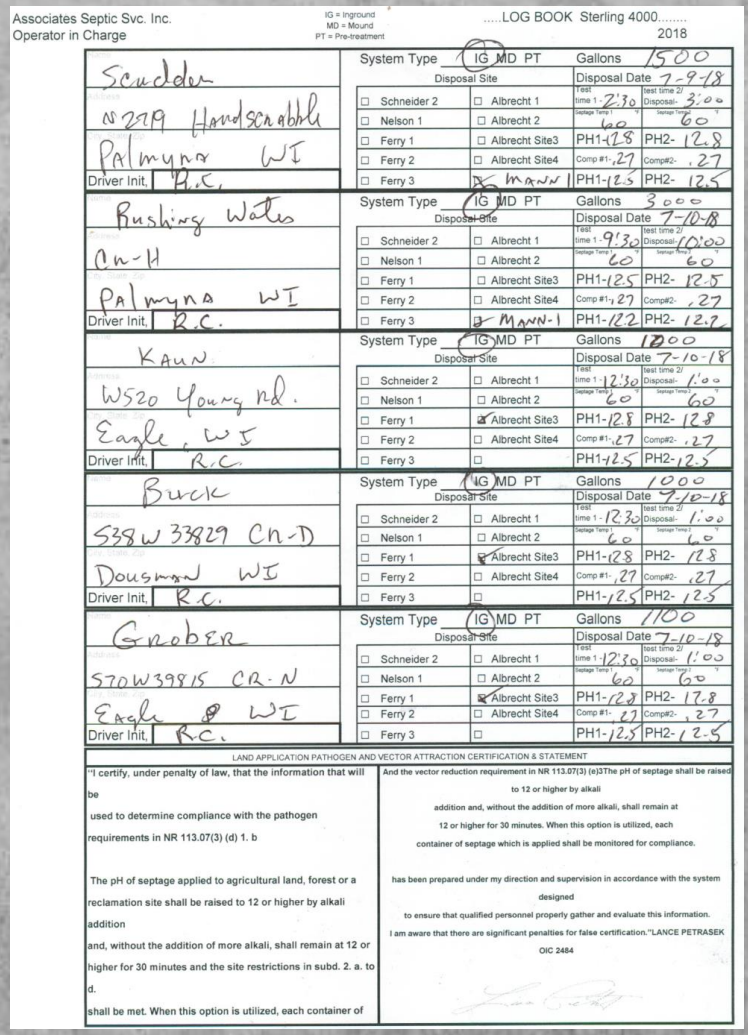
ANNUAL LAND APPLICATION REPORT

Section 283.55(1) or 281.48(3)(b), Wis. Stats.
Form 3400-55 Rev. 11-97

WPDES Permit No: **2484**
Permittee/Licensee Name: **ASSOCIATES SOIL TESTING OF WISCONSIN, IN**
FID Number:
County: **Walworth**

Form requires electronic submittal by January 31
Please keep a completed version of the form for your records.
Year Submitted for : **2018**
☒ Did you land apply this period

DNR #	Fac Site #/ Field #	Landowner	Acres Land Applied	Outfall No*	Amount of Waste	Units	N supplied from waste (lbs/acre)	Other Sources of N (lbs/acre)	Crop Code	Crop Year	Nitrogen Rec. (lbs/acre)	Method	Chlorides Applied (lbs/acre)	Site no longer used
95337	ALBRECHT/1	Dale, Monica, and Larry	21.0	990	362,940	GAL			1	2018		S		N
95338	ALBRECHT/2	Dale, Monica, and Larry	18.0	990	41,800	GAL			1	2018		S		N
100088	ALBRECHT/3	Dale Albrecht	10.0	990	18,300	GAL			1	2018		S		N
100090	ALBRECHT/4	Dale Albrecht	6.0	990	8,030	GAL			1	2018		S		N
100089	ALBRECHT/5	Dale Albrecht	10.0	990	152,200	GAL			17	2019		S		N
102783	FERRY/1	Tom Ferry	18.0	990	134,500	GAL			1	2018		S		N
102784	FERRY/2	Tom Ferry	10.0	990	288,400	GAL			1	2018		S		N
105521	FERRY/3	Tom Ferry	3.5	990	73,600	GAL			1	2018		S		N
110024	FERRY/4	Tom Ferry	7.0	990	244,120	GAL			17	2019		S		N
17993	MANN/1	David Mann	11.0	990	122,500	GAL			1	2018		S		N
90387	NELSON/1	Ben Nelson	7.0	990	81,500	GAL			68	2018		S		N
113140	SCHNEIDE/2	Don Schneider	25.0	990	52,600	GAL			17	2019		S		N
113182	STERKEN/1	Sterken Farms Inc	30.0	990	45,830	GAL			1	2018		S		N



Associates Septic Svc. Inc.
Operator in Charge

IG = Inground
MD = Mound
PT = Pre-treatment

.....LOG BOOK Sterling 4000.....
2018

Scudder N2719 Hardscrabble Palmyra WI Driver Init. R.C.	System Type (IG) MD PT	Gallons 1500			
	Disposal Site	Disposal Date 7-9-18			
	☐ Schneider 2	☐ Albrecht 1	Test time 1: 2:30	test time 2/ Disposal: 3:00	
	☐ Nelson 1	☐ Albrecht 2	Septage Temp 1: 60°	Septage Temp 2: 60°	
	☐ Ferry 1	☐ Albrecht Site3	PH1- 12.8	PH2- 12.8	
	☐ Ferry 2	☐ Albrecht Site4	Comp #1-.27	Comp#2- .27	
	☐ Ferry 3	☒ MANN	PH1- 12.5	PH2- 12.5	
Rushing Waters CN-H Palmyra WI Driver Init. R.C.	System Type (IG) MD PT	Gallons 3000			
	Disposal Site	Disposal Date 7-10-18			
	☐ Schneider 2	☐ Albrecht 1	Test time 1: 9:30	test time 2/ Disposal: 10:00	
	☐ Nelson 1	☐ Albrecht 2	Septage Temp 1: 60°	Septage Temp 2: 60°	
	☐ Ferry 1	☐ Albrecht Site3	PH1- 12.5	PH2- 12.5	
	☐ Ferry 2	☐ Albrecht Site4	Comp #1-.27	Comp#2- .27	
	☐ Ferry 3	☒ MANN-1	PH1- 12.2	PH2- 12.2	
KAUN W520 Young rd. Eagle, WI Driver Init. R.C.	System Type (IG) MD PT	Gallons 1200			
	Disposal Site	Disposal Date 7-10-18			
	☐ Schneider 2	☐ Albrecht 1	Test time 1: 12:30	test time 2/ Disposal: 1:00	
	☐ Nelson 1	☐ Albrecht 2	Septage Temp 1: 60°	Septage Temp 2: 60°	
	☐ Ferry 1	☒ Albrecht Site3	PH1- 12.8	PH2- 12.8	
	☐ Ferry 2	☐ Albrecht Site4	Comp #1-.27	Comp#2- .27	
	☐ Ferry 3	☐	PH1- 12.5	PH2- 12.5	
Buck S38W33829 CN-D Dousman WI Driver Init. R.C.	System Type (IG) MD PT	Gallons 1000			
	Disposal Site	Disposal Date 7-10-18			
	☐ Schneider 2	☐ Albrecht 1	Test time 1: 12:30	test time 2/ Disposal: 1:00	
	☐ Nelson 1	☐ Albrecht 2	Septage Temp 1: 60°	Septage Temp 2: 60°	
	☐ Ferry 1	☒ Albrecht Site3	PH1- 12.8	PH2- 12.8	
	☐ Ferry 2	☐ Albrecht Site4	Comp #1-.27	Comp#2- .27	
	☐ Ferry 3	☐	PH1- 12.5	PH2- 12.5	
Grober S70W39815 CR-N Eagle & WI Driver Init. R.C.	System Type (IG) MD PT	Gallons 1100			
	Disposal Site	Disposal Date 7-10-18			
	☐ Schneider 2	☐ Albrecht 1	Test time 1: 12:30	test time 2/ Disposal: 1:00	
	☐ Nelson 1	☐ Albrecht 2	Septage Temp 1: 60°	Septage Temp 2: 60°	
	☐ Ferry 1	☒ Albrecht Site3	PH1- 12.8	PH2- 17.8	
	☐ Ferry 2	☐ Albrecht Site4	Comp #1- .27	Comp#2- .27	
	☐ Ferry 3	☐	PH1- 12.5	PH2- 12.5	

LAND APPLICATION PATHOGEN AND VECTOR ATTRACTION CERTIFICATION & STATEMENT

"I certify, under penalty of law, that the information that will be used to determine compliance with the pathogen requirements in NR 113.07(3) (d) 1. b

The pH of septage applied to agricultural land, forest or a reclamation site shall be raised to 12 or higher by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for 30 minutes and the site restrictions in subd. 2. a. to d. shall be met. When this option is utilized, each container of

And the vector reduction requirement in NR 113.07(3) (e)3The pH of septage shall be raised to 12 or higher by alkali addition and, without the addition of more alkali, shall remain at 12 or higher for 30 minutes. When this option is utilized, each container of septage which is applied shall be monitored for compliance.

has been prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification."LANCE PETRASEK OIC 2484

Storage

Wisconsin Liquid Waste Carriers Association

- Storage
  - Optimal application weather
  - Capacity (defined and regulated by NR113)
    - Equal to or less than 25,000 gallons = “small storage”
    - Equal to or more than 25,001 gallons = “large storage”
      - Requires WPDES permit

Lagoon

Slurry Store

What's Next

Wisconsin Liquid Waste Carriers Association

- Septage Study
  - DNR, WLWCA, UWSP (Rob Michitsch)
  - Preliminary results 50 samples…
  - Next phase 300 samples
    - Funding alternatives
      - EPA
      - Other

Recommendations

- Consistent agency regulations
  - DSPS all aspects up to operation of POWTS
    - Including large POWTS
  - DNR all aspects upon operation
    - Pumping
    - Transporting
    - Treating
    - Disposing

Cost:

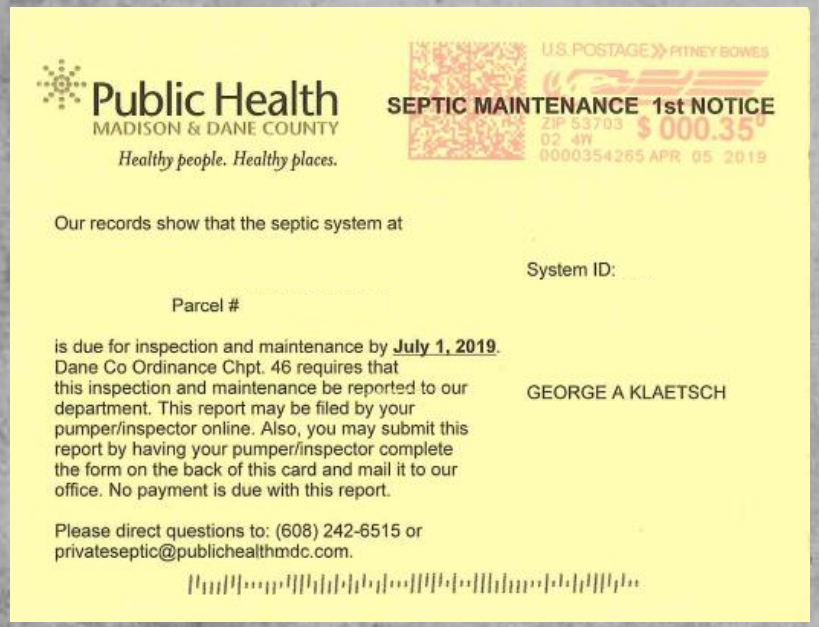
$0

Recommendations

- Maintain 3-year maintenance schedule in statute
  - 145.20(5) (b) The maintenance program shall include a requirement of inspection or pumping of the private on-site wastewater treatment system at least once every 3 years
  - Customer costs = $150-$250 per pumped tank

Cost:

$0



Public Health
MADISON & DANE COUNTY
Healthy people. Healthy places.

U.S. POSTAGE PITNEY BOWES ZIP 53703 02 4W 0000354265 APR 05 2019 $ 000.35

SEPTIC MAINTENANCE 1st NOTICE

Our records show that the septic system at

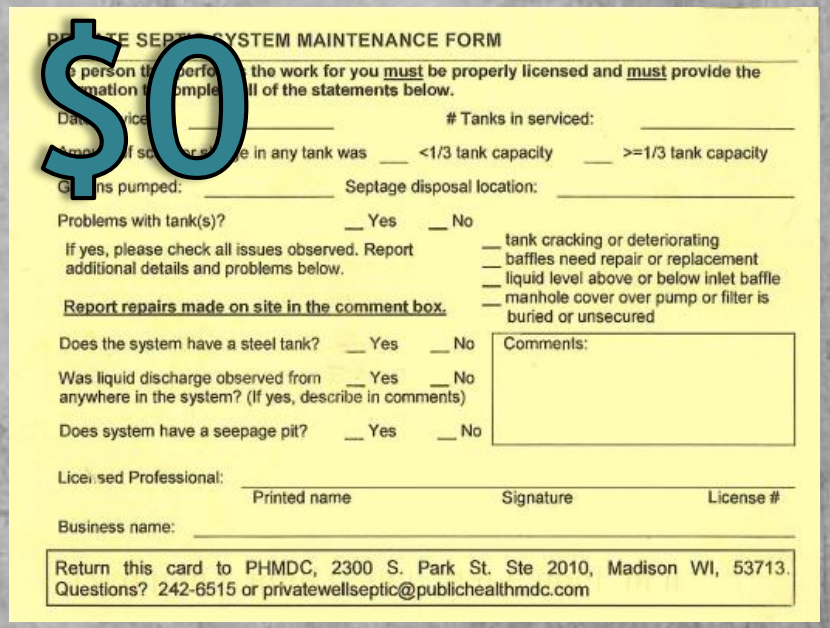
System ID:

Parcel #

is due for inspection and maintenance by **July 1, 2019**. Dane Co Ordinance Chpt. 46 requires that this inspection and maintenance be reported to our department. This report may be filed by your pumper/inspector online. Also, you may submit this report by having your pumper/inspector complete the form on the back of this card and mail it to our office. No payment is due with this report.

GEORGE A KLAETSCH

Please direct questions to: (608) 242-6515 or privateseptic@publichealthmdc.com.



PRIVATE SEPTIC SYSTEM MAINTENANCE FORM

...person that performs the work for you **must** be properly licensed and **must** provide the ...rmation to complete all of the statements below.

Date of service: _____ # Tanks in serviced: _____

...ment if scum or sludge in any tank was ___ <1/3 tank capacity ___ >=1/3 tank capacity

Gallons pumped: _____ Septage disposal location: _____

Problems with tank(s)? __ Yes __ No

If yes, please check all issues observed. Report additional details and problems below.

__ tank cracking or deteriorating
__ baffles need repair or replacement
__ liquid level above or below inlet baffle
__ manhole cover over pump or filter is buried or unsecured

Report repairs made on site in the comment box.

Does the system have a steel tank? __ Yes __ No

Was liquid discharge observed from anywhere in the system? (If yes, describe in comments) __ Yes __ No

Does system have a seepage pit? __ Yes __ No

Comments:

Licensed Professional: _____
Printed name Signature License #

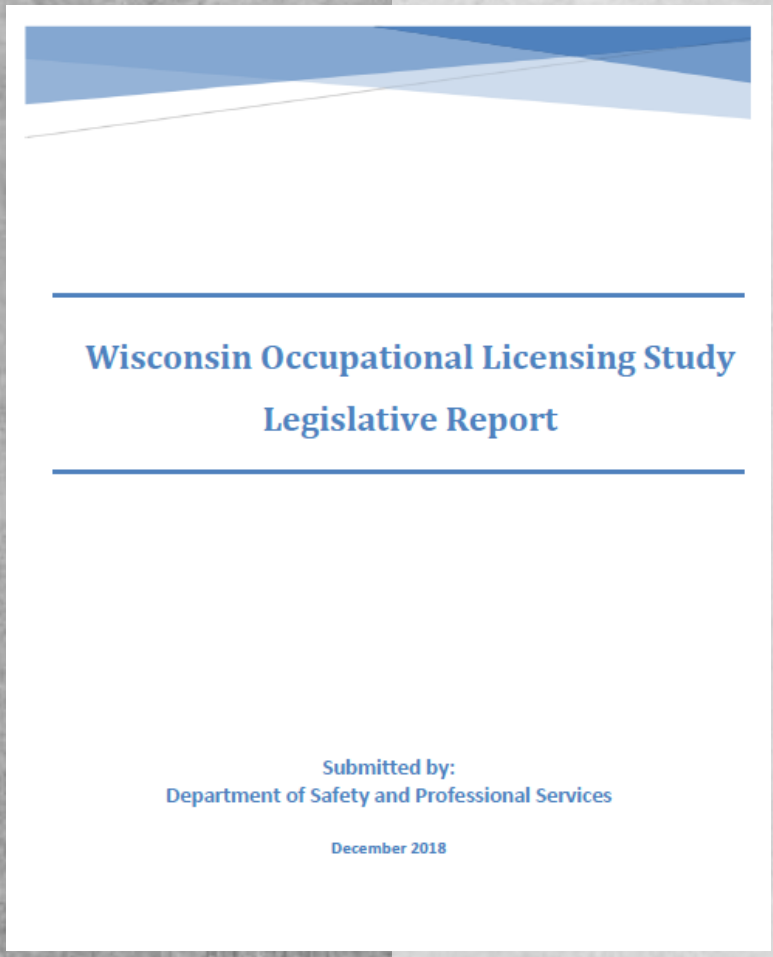
Business name: _____

Return this card to PHMDC, 2300 S. Park St. Ste 2010, Madison WI, 53713.
Questions? 242-6515 or privatewellseptic@publichealthmdc.com

Recommendations

- Maintain occupational licensing for Designer of Engineering System – Private Sewage System
- Recommendations for elimination
  - Job duties could be picked up by other professions
  - License requirements are st[illegible]
  - No other states have this type of license

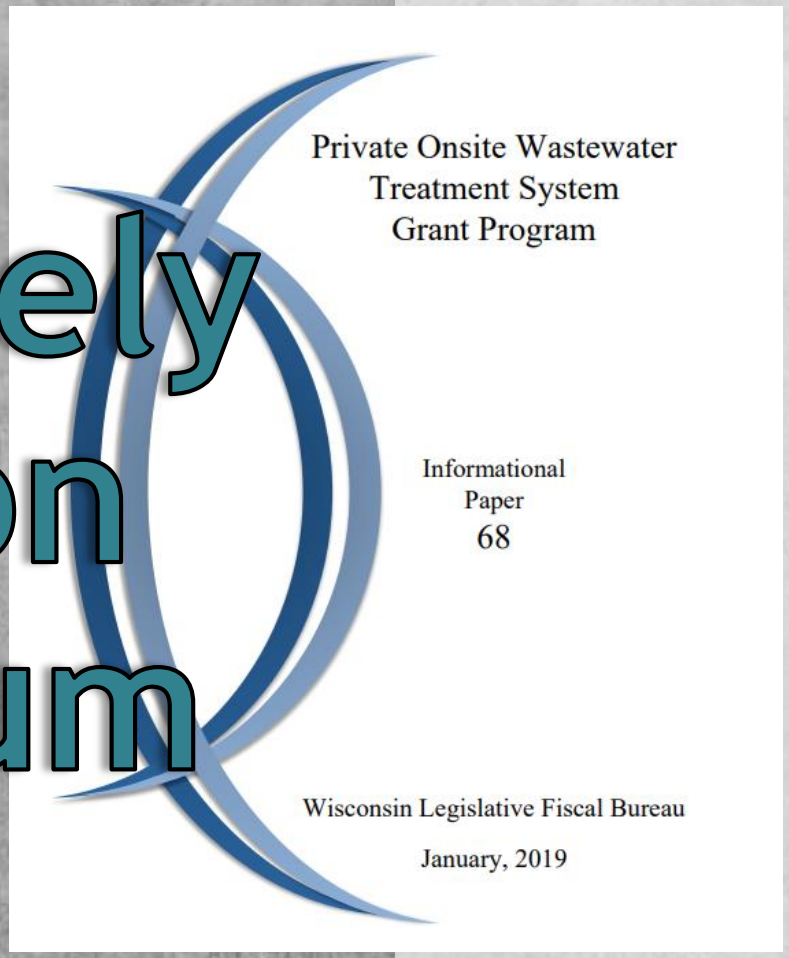
Cost: $0



Recommendations

- POWTS Grant Program
  1. Extend PR-funded grant program beyond 6/30/21
  2. Expand eligibility for POWTS installed before 7/1/78
     - Current date of eligibility: 7/1/78
  3. Re-establish GPR funding for program
  4. Update household income requirements
     - Currently $30k-45k to qualify

Cost: Approximately $1.6 Million per biennium



Recommendations

- Create university/state-based research and testing analysis program
  - Tanks
  - Components
  - Filtration
  - Waste
- Funding source – adjust current groundwater fee within state budget
- Program leads:
  - Dr. Daniel Keymer – UWSP
  - Robert Michitsch - UWSP

Cost: TBD

Recommendations

- Re-establish execution of DSPS performance monitoring
  - SPS 383.70(2) - Purpose of performance monitoring
    a) Provide additional information on the long-term performance of the various POWTS methods and technologies, to confirm their reliability, and to provide data for improvements
    b) Monitor the various methods and technologies relative to long-term compliance with the groundwater standards

Cost:
$0

WATER QUALITY TASK FORCE

Wisconsin State Legislature / Our Mission

Speaker Robin Vos outlined five specific areas to examine:

1. Identifying best practices for testing and data collection, measuring water quality in different parts of the state, and types of soil

2. Determining the sources and causes of contaminants impacting water quality

3. Consulting with stakeholders to assess current practices to manage runoff as well as suggestions to improve these efforts

4. Investigating remedies that will protect a healthy and stable supply of water for residents and industry

5. Studying best practices for designing and constructing wells and septic systems to safeguard a healthy water supply

Recommendations

- Create statutory definition of:
  "New large septage storage facility"

Problem 1: outdated/overdrawn code not consistent with Wisconsin's current generated septage

Problem 2: possible non-compliance with septage spreading requirements

Solution: increase capacity from greater than 25,000 gallons to greater than 250,000 gallons

Cost: $0

Recommendations

- Maintain land spreading/injecting on DNR-approved fields

Cost: $0

Presenters

George Klaetsch
(608) 441-1436
gklaetsch@kpasllc.com

Mark Wieser
(800) 362-7220
markw@wieserconcrete.com

WPCA
WISCONSIN PRECAST CONCRETE ASSOCIATION

Kevin Stange
(920) 459-3060
kevin.stange@sheboygancounty.com

WOWRA
Wisconsin Onsite Water Recycling Association

Lance Petrasek
(262) 903-7004
associates@netwurx.net

RESPONSIBLE RECYCLING BY RESPONSIBLE CARRIERS
Wisconsin Liquid Waste Carriers Association